

Notice of Allowability

Application No.

10/715,851

Examiner

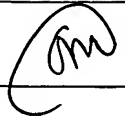
Thuy V. Tran

Applicant(s)

KOBAYASHI ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment submitted on 04/14/2005.
2. ☒ The allowed claim(s) is/are 1-26.
3. ☒ The drawings filed on 11/19/03 & Repl. Sheets on 4/14/05 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 050205.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



THUY V. TRAN
PRIMARY EXAMINER

DETAILED ACTION

This is a response to the Applicants' amendment submitted on 04/14/2005. In virtue of this amendment, claims 19-26 are newly added; and thus, claims 1-26 are now presented in the instant application.

Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Hyung Sohn on 04/29/2005. The amendment includes:

Claim 14, line 20, delete "the" (first occurrence);

Claim 14, line 27, delete "of";

Claim 15, line 9, insert "--scan-- between another" and "line";

Claim 19, line 1, change "An" to --A--; and change "an" to --a--.

Allowable Subject Matter

2. Claims 1-26 are allowed.

Reasons for Allowance

3. The following is an examiner's statement of reasons for allowance:

Prior art fails to disclose or fairly suggest:

- An electroluminescent display apparatus comprising an electroluminescent whose one terminal is connected to one of a source and a drain of the drive transistor, and a scan

driving circuit that supplies a stepped pulse as the select voltage to each of the scan lines, the stepped pulse being formed of a first voltage and a second voltage larger than the first voltage, wherein the other of the source and the drain of the drive transistor and the other terminal of the capacitor are connected to a scan line next to the one of the scan lines, in combination with the remaining claimed limitations as called for in independent claim 1 (claims 2-8 are allowed since they are dependent on claim 1);

- An electroluminescent display apparatus wherein the scan line driving circuit supplies select voltage and the write reference voltage at a voltage value and a timing such that a first phase, a second phase, and a third phase are sequentially repeated, the first phase indicates that the data voltage is written in the capacitor without allowing the electroluminescent element to emit light, the second phase indicates that a voltage stored in the capacitor is held without allowing the electroluminescent element to emit light, and the third phase indicates that light emission by the electroluminescent element is sustained until a next first phase depending on the voltage stored, in combination with the remaining claimed limitations as called for in independent claim 9 (claims 10-11 are allowed since they are dependent on claim 9);
- An electroluminescent display apparatus comprising an electroluminescent whose one terminal is connected to one of a source and a drain of the drive transistor, and a data line driving circuit that calculates a voltage drop in the electroluminescent element at a position in a direction of each of the scan lines, based on the position in the direction with respect to the each of common lines and a wiring resistance between

the display cells arranged on the each of common lines, and that supplies a data voltage corrected based on the voltage drop to each of data lines, in combination with the remaining claimed limitations as called for in independent claim 12 (claim 13 is allowed since it is dependent on claim 12);

- A driving method of an electroluminescent display apparatus wherein the steps of supplying the select-on voltage, the select-maintain voltage, and the select-off voltage shifts to the next scan line during the subsequent time period, in combination with the remaining claimed limitations as called for in independent claim 14 (claim 15 is allowed since it is dependent on claim 14);
- A driving method of an electroluminescent display apparatus comprising third supplying the select voltage and the write reference voltage to the each of the select scan lines and the each of the corresponding write scan lines, respectively, at a voltage value and a timing such that light emission of the electroluminescent device is sustained until the next first supplying, based on the voltage stored in the capacitor, in combination with the remaining claimed limitations as called for in independent claim 16 (claim 17 is allowed since it is dependent on claim 16);
- A driving method of an electroluminescent display apparatus comprising calculating a voltage drop in the electroluminescent element at a position in a direction of each of the scan lines, based on the position in the direction with respect to the each of common lines and a wiring resistance between the display cells arranged on the each of common lines, and correcting the data voltage based on the voltage drop, in

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combination with the remaining claimed limitations as called for in independent claim 18; and

- A display cell for a display apparatus comprising a select transistor having a gate electrically connected to a select scan line, and a drive transistor having a gate electrically connected to a data line through the select transistor, a first controlled terminal electrically connected to a supply line, and a second controlled terminal electrically connected to a write scan line corresponding to the select scan line, a capacitor having a first terminal electrically connected to the gate of the drive transistor and a second terminal electrically connected to the write scan line, and a display element electrically connected either in between the supply line and the first controlled terminal of the drive transistor or in between the write scan line and the second controlled terminal of the drive transistor, as called for in independent claim 19 (claims 20-26 are allowed since they are dependent on claim 19).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

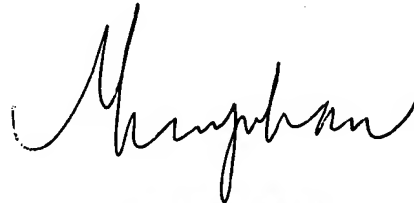
Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy V. Tran whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:00 AM -5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

05/02/2005



THUY V. TRAN
PRIMARY EXAMINER